

AMENDMENTS TO THE CLAIMS:

Please cancel claims 4 and 7-8 without prejudice or disclaimer, and amend the claims as follows:

1. (Currently Amended) A high-speed roaming method of a wireless LAN comprising:
 - a network; ;
 - a plurality of access points provided in the network; ; and
 - a mobile terminal that is radio-connected to one of said plurality of access points via a communication system using a frequency hopping,
 - wherein each of said access points:
 - registers previously a predetermined number of access points out of respective neighboring access points as neighboring access points; ;
 - sends out hopping information ~~of the own access point~~ thereof periodically to the network at mutually different timings; ;
 - receives the hopping information of the neighboring access points out of ~~the~~ respective neighboring access points to construct ~~the own access points thereof~~ as a database; ; and
 - synchronizes all of said access points in a same subnet of the network and sends out radio beacons synchronously from said access points; and
 - wherein said mobile terminal:
 - monitors said radio beacons of a connected access point and downloads hopping information of the neighboring access points from said connected access point; ;
 - monitors radio beacons of said neighboring access points based on the hopping information; ;
 - constructs ~~the monitored~~ hopping information as a mobile terminal database to ~~always~~ continuously compare radio environments; ; and
 - selects and connects ~~the~~ an access point having a best radio situation by referring the mobile terminal database of said neighboring access points when a quality of the radio beacon of said connected access point is reduced lower than a predetermined value;

wherein, when said mobile terminal is not connected to said access point having said best radio situation, said mobile terminal is connected subsequently to an access point having a second best radio situation.

2. (Currently Amended) The high-speed roaming method of a wireless LAN according to claim 1, wherein

each of said access points sets ~~previously~~ one access point of ~~respective~~ said access points ~~connected to the same subnet~~ as a master access point, and sets the access points other than said master access point as slave access points,

said master access point sends out a master beacon containing time information to the network at a predetermined time interval, and

said slave access points are operated in synchronism with said master access point by receiving said master beacon and comparing time information contained in said master beacon with ~~the own~~ time information of each of said slave access points ~~thereof to~~ correct.

3. (Currently Amended) The high-speed roaming method of a wireless LAN according to claim 2, wherein

when an operation of said master access point is stopped because of a predetermined reason, ~~another~~ a backup access point connected to the same subnet ~~backups~~ backs-up said master access point in place of said master access point.

4. (Canceled)

5. (Currently Amended) The high-speed roaming method of a wireless LAN according to claim 1, wherein

when said mobile terminal is not connected to all of said neighboring access points, ~~such~~ said mobile terminal is connected to said access point having a good communication situation by scanning all frequency channels.

6. (Previously Amended) The high-speed roaming method of a wireless LAN according to claim 1, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

7. (Canceled)

8. (Canceled)

9. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 2, wherein

when said mobile terminal is not connected to all neighboring access points, said mobile terminal is connected to said access point having a good communication situation by scanning all frequency channels.

10. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 3, wherein

when said mobile terminal is not connected to all neighboring access points, said mobile terminal is connected to said access point having a good communication situation by scanning all frequency channels.

11. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 4, wherein

when said mobile terminal is not connected to all neighboring access points, said mobile terminal is connected to said access point having a good communication situation by scanning all frequency channels.

12. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 2, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

13. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 3, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

14. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 4, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

15. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 5, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

16. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 7, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

17. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 8, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

18. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 9, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

19. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 10, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

20. (Previously Presented) The high-speed roaming method of a wireless LAN according to claim 11, wherein

said mobile terminal is connected to said access point having a best communication situation, by scanning all connectable access points out of said access points provided in the network at a rising time.

21. (New) The high-speed roaming method of a wireless LAN according to claim 3, wherein said backup access point comprises:

an access point having a smallest hopping set number.

22. (New) The high-speed roaming method of a wireless LAN according to claim 3, wherein said backup access point is set based on a set alias name.

23. (New) The high-speed roaming method of a wireless LAN according to claim 3,

wherein said backup access point is set based on a MAC identification.

24. (New) A mobile terminal for a wireless LAN, comprising:

means for monitoring radio beacons of a connected access point and downloading hopping information of a plurality of neighboring access points from said connected access point;

means for monitoring radio beacons of said neighboring access points based on the hopping information;

means for constructing the hopping information as a mobile terminal database to continuously compare radio environments; and

means for selecting and connecting an access point having a best radio situation by referring the mobile terminal database of said neighboring access point when a quality of the radio beacon of said connected access point is reduced lower than a predetermined value,

wherein, when said mobile terminal is not connected to said access point having a best radio situation, said mobile terminal is connected subsequently to an access point having a second best radio situation.

25. (New) A mobile terminal for a wireless LAN, comprising:

a radio beacon monitor for monitoring radio beacons of a connected access point and downloading hopping information of a plurality of neighboring access points from said connected access point;

a neighbor radio beacon monitor for monitoring radio beacons of said neighboring access points based on the hopping information;

an information construction device for constructing the hopping information as a mobile terminal database to continuously compare radio environments; and

a selector for selecting and connecting an access point having a best radio situation by referring the mobile terminal database of said neighboring access points when a quality of the radio beacon of said connected access point is reduced lower than a predetermined value,

wherein, when said mobile terminal is not connected to said access point having a best radio situation, said mobile terminal is connected subsequently to an access point having a second best radio situation.

26. (New) The high-speed roaming method of a wireless LAN according to claim 1, wherein said mobile terminal monitors said radio beacons to mate with the hopping information of the neighboring access point since said access points are operated synchronously.

27. (New) The high-speed roaming method of a wireless LAN according to claim 1, wherein said mobile terminal fits a hopping channel and a hopping pattern to the neighboring access point having the best radio situation.

28. (New) The high-speed roaming method of a wireless LAN according to claim 26, wherein said mobile terminal transmits a probe request frame.

29. (New) The high-speed roaming method of a wireless LAN according to claim 28, wherein said mobile terminal receives a probe response frame from said neighboring access point having the best radio situation.

30. (New) The high-speed roaming method of a wireless LAN according to claim 29, wherein said mobile terminal decides the neighboring access point having the best radio situation and transmits an authentication request frame to the neighboring access point having the best radio situation.